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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/924,585

08/09/2001

Yasutaka Sato

062800-0103

2998

22428 7590 08/28/2006

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EXAMINER

SCHUBERT, KEVIN R

ART UNIT

PAPER NUMBER

2137

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/924,585

Applicant(s)

SATO, YASUTAKA

Examiner

Kevin Schubert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7, 13, 15-20, 26, 35-37, 39 and 40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 13, 15-20, 26, 35-37, 39 and 40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claims 1-4,7,13,15-20,26,35-37, and 39-40 have been considered.

Election/Restrictions

5 Claims 10-12 and 38 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group, there being no allowable generic or linking claim. Election was made without traverse in the reply filed on 8/15/06.

Specification

10 The Specification is objected to in accordance with the 112, first paragraph, rejections below.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

15 Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

 Claims 37 and 39-40 lack patentable utility. Specifically, according to claims 37 and 39-40, there
20 is no "perform[ing], using a second value, an arithmetic operation on the M second bytes when the determination unit determines that the first byte indicates the first value". Accordingly, absent such a limitation, Examiner fails to see how claims 37 and 39-40 perform their stated utility of "encrypt[ing] a bit stream for protection of data security". Appropriate correction is required.

Claim Rejections - 35 USC § 112

 The following is a quotation of the first paragraph of 35 U.S.C. 112:

 The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
30 set forth the best mode contemplated by the inventor of carrying out his invention.

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Claims 2-3, 16, 19, and 35-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

5 Regarding claim 2, Examiner finds no disclosure of the limitation "wherein the arithmetic operation is an addition of a subtraction to set a most significant bit of each of the M second bytes to 1". At best, Examiner finds that a program is basically expressed as an 8 bit data code array and if the 8th bit, which is the most significant bit, is converted to "1", then the code becomes unrecognizable on a computer [0075]. This is not the same as the claimed limitation. Appropriate correction or specific
10 reference to where this is disclosed in the Specification is required.

 Regarding claims 3, 16, and 19, Examiner finds no disclosure of the limitation "wherein the first value, the second value, the M and the N are stored in the data protection processing device to be rewritten from the outside". At best, Examiner finds disclosure that it is possible to acquire information relating to the adding conditions, adding range, and protection key values from the data transmitting side
15 and for these to be rewritten by an operator using a keyboard based on the acquired information [0052]. This is not the same as the claimed limitation. Appropriate correction or specific reference to where this is disclosed in the Specification is required.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

20 The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

 Claims 37 and 39-40 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete
25 for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. Dependent claims 37 and 39-40 appear to omit the essential part of "perform[ing], using a second value, an arithmetic operation on the M second bytes when the determination unit determines that the first byte indicates the first value".

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Claims 4 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Examiner respectfully notes his confusion over "bit-to-byte conversion". To the best of

5 Examiner's knowledge, there is no such thing as a "bit-to-byte conversion. A byte is merely a name given to a sequence of bits (usually 8). However, there is no apparent conversion process involved. Examiner notes that similar reasoning has been previously posited (action mailed: 2/22/05, page 2 lines 14-23).

Appropriate correction is required.

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

15

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

20

Claims 1,3,7,13,16,17,19,26, and 35-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Karppanen, U.S. Patent No. 5,987,137.

25

As per claims 1,13, and 17, the Applicant describes a data protection processing device that encrypts a bit stream for a protection of data security, the bit stream including a first byte, M second bytes, and N intermediate bytes between the first byte and the M second bytes, where M and N are positive integers, the data protection processing device comprising the following limitations which are met by Karppanen:

a) a determination unit that determines whether the first byte indicates a first value (Col 9, lines 53-62);

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b) a calculation unit that performs, using a second value, an arithmetic operation on the M second bytes when the determination unit determines that the first byte indicates the first value (Col 7, lines 16-19).

5 As per claims 3, 16, and 19, the Applicant describes the data protection processing device of claims 1, 13, and 17, wherein the first value, the second value, the M and the N are stored in the data protection processing device to be rewritten from the outside (Col 9, lines 53-62; Col 7, lines 16-19; Col 9, lines 11-19; Fig 4b).

10 As per claims 7 and 26, the Applicant describes the data protection processing device according to claims 1 and 17, which are met by Karppanen, further comprising the following limitations which are also met by Karppanen:

a) a receiving unit that receives, from another data protection processing device, another bit stream including a third byte, M fourth bytes, and N intermediate bytes between the third byte and the M
15 fourth bytes (Col 9, lines 53-62; Col 7, lines 16-19; Col 9, lines 11-19; Fig 4b);

b) a second determination unit that determines whether the third byte indicates the first value (Col 9, lines 53-62; Col 7, lines 16-19; Col 9, lines 11-19; Fig 4b);

c) a second calculation unit that performs, using the second value, a second arithmetic operation on the M fourth bytes when the second determination unit determines that the third byte indicates the first
20 value (Col 9, lines 53-62; Col 7, lines 16-19; Col 9, lines 11-19; Fig 4b).

As per claims 35-36, the Applicant claims the data protection processing device of claims 1 and 17, which are met by Karppanen, with the following limitation which is also met by Karppanen:

Wherein, when the first byte indicates the first value, the M second bytes correspond to an adding
25 range, the first byte corresponds to an adding condition, and the second value corresponds to a protection key value (Col 9, lines 53-62; Col 7, lines 16-19; Col 9, lines 11-19; Fig 4b).

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

5 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10 Claims 2,15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karppanen in view of Simpson, U.S. Patent No. 7,027,568.

As per claims 2,15, and 18, the Applicant describes the data protection processing device
15 according to claims 1,13, and 17, which are met by Karppanen, with the following limitation:

Wherein the arithmetic operation is an addition or a subtraction to set a most significant bit of each of the M second bytes to 1 (Simpson: Col 12, lines 46-59).

Karppanen discloses all the limitations of claims 1,13, and 17. However, Karppanen appears to fail to disclose that a most significant bit may be set for each of a number of bytes. Simpson teaches that
20 a most significant bit may be set for each of a number of bytes and that doing so allows the opportunity to differentiate the bytes from other bytes. It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Karppanen with those of Simpson because doing so allows the opportunity to differentiate the bytes from other bytes.

25 Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karppanen in view of Sasaki, U.S. Patent Application Publication No. 2002/0089987.

As per claims 4 and 20, the Applicant describes the data protection processing device according to claims 1 and 17, which are met by Karppanen, with the following limitation:

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a) a first buffer that temporarily stores a plurality of bytes to be read out by the determination unit, the plurality of bytes being obtained from the bit stream by bit-to-byte conversion (Karppanen: Col 9, lines 53-62; Col 7, lines 16-19; Col 9, lines 11-19; Fig 4b; Sasaki: [0036]);

5 b) a second buffer that temporarily stores the first byte, the N intermediate bytes, and the M second bytes that have been subjected to the arithmetic operation (Karppanen: Col 9, lines 53-62; Col 7, lines 16-19; Col 9, lines 11-19; Fig 4b; Sasaki: [0036]);

Karppanen discloses all the limitations of claims 1 and 17, as well as limitations of the above claim. However, Karppanen appears to be silent as to whether *buffers* are employed. Sasaki teaches the common and well known idea of using buffers to temporarily store data. It would have been obvious
10 to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Sasaki with those of Karppanen because doing so allows for data to be temporarily and efficiently stored using buffers.

Response to Arguments

15 Applicant's arguments filed 5/16/06 with respect to the 102(b) rejection of claim 1 under Karppanen have been fully considered but they are not persuasive. Specifically, Applicant presents the following arguments:

- 1) there is no disclosure of having N intermediate bytes that are not enciphered/deciphered
- 2) the bit-wise binary addition of Karppanen is not equivalent to an arithmetic operation

20

Examiner respectfully, but most strenuously, disagrees. Regarding 1), it is noted that the features upon which applicant relies (i.e., having N intermediate bytes that are not enciphered/deciphered) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26
25 USPQ2d 1057 (Fed. Cir. 1993).

Regarding 2), Examiner fails to see how the addition operation of Karppanen is not an arithmetic operation as claimed. Examiner fails to find anything (in the Specification or claim language) which

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precludes the addition operation taught by Karppanen from meeting an arithmetic operation. Further, Examiner respectfully notes that a proper argument in compliance with 37 CFR 1.111(b) specifically pointing out how the language of the claims patentably distinguishes them from the references.

5

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Schubert whose telephone number is (571) 272-4239. The examiner can normally be reached on M-F 7:30-6:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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